



NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 24 2017

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Mewbourne Oil Company

Eddy County, New Mexico

Section 3-24S-28E Yardbirds 3 W2AP 1H

Yardbirds 3 W2AP Fee 1H

30.015-42935

Original Hole

Design: Original Hole

Standard Survey Report

08 May, 2017



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section3-24S-28E Yardbirds 3 W2AP 1H
Well: Yardbirds 3 W2AP Fee 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Yardbirds 3 W2AP Fee 1H
TVD Reference: 3018 +27 @ 3045.0usft (Patterson 242)
MD Reference: 3018 +27 @ 3045.0usft (Patterson 242)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Project	Eddy County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Section3-24S-28E Yardbirds 3 W2AP 1H
Site Position:
From: Map
Position Uncertainty: 0.0 usft
Northing: 456,087.30 usft
Easting: 582,201.70 usft
Slot Radius: 13-3/16 "
Latitude: 32° 15' 13.036 N
Longitude: 104° 4' 2.740 W
Grid Convergence: 0.14 °

Well Yardbirds 3 W2AP Fee 1H
Well Position +N/-S 0.0 usft
+E/-W 0.0 usft
Position Uncertainty 0.0 usft
Northing: 456,087.30 usft
Easting: 582,201.70 usft
Wellhead Elevation: 27.0 usft
Latitude: 32° 15' 13.036 N
Longitude: 104° 4' 2.740 W
Ground Level: 3,018.0 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/13/2017	7.20	60.01	47,923.73337841

Design Original Hole
Audit Notes:
Version: 1.0
Phase: ACTUAL
Tie On Depth: 0.0
Vertical Section:
Depth From (TVD) (usft) 0.0
+N/-S (usft) 0.0
+E/-W (usft) 0.0
Direction (°) 332.73

Survey Program	Date 5/8/2017				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
175.0	15,190.0	Vertical MWD Survey (Original Hole)	MWD+IGRF	OWSG MWD + IGRF or WMM	

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
175.0	0.70	339.90	175.0	1.0	-0.4	1.1	0.40	0.40	0.00
353.0	0.70	342.70	353.0	3.1	-1.1	3.2	0.02	0.00	1.57
532.0	0.50	276.80	532.0	4.2	-2.2	4.7	0.38	-0.11	-36.82
723.0	0.70	285.40	723.0	4.6	-4.1	6.0	0.11	0.10	4.50
913.0	0.90	293.10	912.9	5.5	-6.6	7.9	0.12	0.11	4.05
1,103.0	1.10	321.30	1,102.9	7.5	-9.1	10.9	0.28	0.11	14.84
1,293.0	1.10	319.80	1,292.9	10.3	-11.4	14.4	0.02	0.00	-0.79
1,483.0	1.30	311.00	1,482.8	13.1	-14.2	18.2	0.14	0.11	-4.63
1,613.0	1.50	299.90	1,612.8	14.9	-16.8	21.0	0.26	0.15	-8.54



Microsoft Survey Report



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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,800.0	1.00	307.50	1,799.8	17.2	-20.2	24.5	0.28	-0.27	4.06
1,987.0	1.50	130.50	1,986.7	16.6	-19.7	23.7	1.34	0.27	-94.65
2,174.0	3.10	130.00	2,173.6	11.7	-13.9	16.8	0.86	0.86	-0.27
2,361.0	3.00	127.80	2,360.3	5.5	-6.2	7.7	0.08	-0.05	-1.18
2,457.0	2.20	100.50	2,456.2	3.6	-2.4	4.3	1.51	-0.83	-28.44
2,646.0	1.00	80.30	2,645.1	3.2	2.8	1.6	0.69	-0.63	-10.69
2,833.0	0.80	89.40	2,832.1	3.5	5.7	0.5	0.13	-0.11	4.87
3,020.0	0.90	71.60	3,019.1	4.0	8.4	-0.3	0.15	0.05	-9.52
3,207.0	1.10	64.20	3,206.1	5.2	11.4	-0.6	0.13	0.11	-3.96
3,394.0	0.40	50.30	3,393.1	6.4	13.5	-0.5	0.38	-0.37	-7.43
3,581.0	0.30	48.00	3,580.1	7.2	14.4	-0.2	0.05	-0.05	-1.23
3,769.0	0.20	56.60	3,768.1	7.7	15.0	-0.1	0.06	-0.05	4.57
3,955.0	0.40	5.90	3,954.1	8.5	15.4	0.5	0.17	0.11	-27.26
4,142.0	0.40	14.60	4,141.0	9.8	15.6	1.6	0.03	0.00	4.65
4,329.0	0.50	1.00	4,328.0	11.2	15.8	2.8	0.08	0.05	-7.27
4,516.0	0.40	336.60	4,515.0	12.6	15.5	4.1	0.11	-0.05	-13.05
4,703.0	0.40	22.00	4,702.0	13.9	15.5	5.2	0.17	0.00	24.28
4,890.0	0.30	16.10	4,889.0	14.9	15.9	6.0	0.06	-0.05	-3.16
5,077.0	1.60	317.60	5,076.0	17.3	14.3	8.9	0.78	0.70	-31.28
5,264.0	3.90	321.90	5,262.8	24.3	8.6	17.6	1.23	1.23	2.30
5,451.0	4.00	322.40	5,449.3	34.4	0.7	30.3	0.06	0.05	0.27
5,638.0	4.00	323.10	5,635.9	44.8	-7.2	43.1	0.03	0.00	0.37
5,825.0	3.20	323.80	5,822.5	54.2	-14.2	54.7	0.43	-0.43	0.37
6,012.0	2.40	313.50	6,009.3	61.2	-20.1	63.6	0.50	-0.43	-5.51
6,198.0	1.90	305.00	6,195.1	65.6	-25.5	70.0	0.32	-0.27	-4.57
6,385.0	2.40	333.20	6,382.0	70.9	-29.8	76.6	0.62	0.27	15.08
6,572.0	1.90	22.90	6,568.9	77.2	-30.3	82.5	1.00	-0.27	26.58
6,759.0	1.40	45.60	6,755.8	81.7	-27.5	85.2	0.44	-0.27	12.14
6,946.0	1.10	50.30	6,942.8	84.4	-24.5	86.3	0.17	-0.16	2.51
7,133.0	2.30	346.90	7,129.7	89.2	-24.0	90.3	1.10	0.64	-33.90
7,320.0	3.10	351.30	7,316.5	97.9	-25.6	98.7	0.44	0.43	2.35
7,507.0	1.10	9.10	7,503.4	104.6	-26.1	105.0	1.11	-1.07	9.52
7,694.0	2.70	8.10	7,690.3	110.8	-25.2	110.0	0.86	0.86	-0.53
7,881.0	2.20	354.10	7,877.1	118.7	-24.9	116.9	0.42	-0.27	-7.49
8,069.0	2.60	350.10	8,064.9	126.5	-26.0	124.4	0.23	0.21	-2.13
8,255.0	3.10	343.50	8,250.7	135.5	-28.2	133.3	0.32	0.27	-3.55
8,442.0	2.30	335.20	8,437.5	143.7	-31.2	142.0	0.48	-0.43	-4.44
8,629.0	1.10	6.80	8,624.4	148.9	-32.5	147.3	0.79	-0.64	16.90
8,816.0	2.00	355.10	8,811.3	154.0	-32.6	151.8	0.51	0.48	-6.26
9,004.0	1.00	330.10	8,999.3	158.6	-33.7	156.5	0.62	-0.53	-13.30
9,191.0	1.50	317.80	9,186.2	161.9	-36.2	160.4	0.30	0.27	-6.58
9,378.0	1.20	320.70	9,373.2	165.2	-39.0	164.7	0.16	-0.16	1.55
9,565.0	0.70	330.80	9,560.1	167.7	-40.8	167.8	0.28	-0.27	5.40
9,753.0	0.70	5.20	9,748.1	169.9	-41.3	169.9	0.22	0.00	18.30

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,847.0	0.40	275.50	9,842.1	170.5	-41.6	170.6	0.86	-0.32	-95.43
9,868.0	0.30	242.30	9,863.1	170.4	-41.7	170.6	1.06	-0.48	-158.10
9,899.0	0.70	195.30	9,894.1	170.2	-41.8	170.5	1.75	1.29	-151.61
9,904.3	1.26	193.46	9,899.4	170.1	-41.8	170.4	10.65	10.63	-34.72
BB Yardbirds 3 W2AP Fee 1H									
9,930.0	4.00	191.90	9,925.1	169.0	-42.1	169.5	10.65	10.65	-6.08
9,961.0	7.40	193.00	9,955.9	166.0	-42.8	167.1	10.97	10.97	3.55
9,992.0	9.80	194.10	9,986.6	161.5	-43.8	163.6	7.76	7.74	3.55
10,023.0	12.10	193.00	10,017.0	155.8	-45.2	159.2	7.45	7.42	-3.55
10,055.0	14.40	190.20	10,048.2	148.6	-46.7	153.4	7.46	7.19	-8.75
10,086.0	16.20	189.30	10,078.1	140.5	-48.1	146.9	5.86	5.81	-2.90
10,117.0	17.60	188.70	10,107.7	131.6	-49.5	139.6	4.55	4.52	-1.94
10,148.0	19.40	188.40	10,137.1	121.9	-50.9	131.7	5.81	5.81	-0.97
10,179.0	21.80	187.00	10,166.1	111.1	-52.4	122.7	7.90	7.74	-4.52
10,210.0	24.70	185.30	10,194.6	98.9	-53.7	112.5	9.60	9.35	-5.48
10,242.0	27.20	184.90	10,223.4	85.0	-54.9	100.7	7.83	7.81	-1.25
10,273.0	29.70	184.20	10,250.6	70.2	-56.1	88.1	8.14	8.06	-2.26
10,304.0	32.40	182.40	10,277.2	54.3	-57.0	74.4	9.21	8.71	-5.81
10,335.0	34.90	181.00	10,303.0	37.1	-57.5	59.3	8.44	8.06	-4.52
10,366.0	37.30	180.60	10,328.1	18.8	-57.8	43.2	7.78	7.74	-1.29
10,397.0	40.20	180.00	10,352.2	-0.6	-57.9	26.0	9.43	9.35	-1.94
10,429.0	43.10	179.80	10,376.1	-21.8	-57.8	7.1	9.07	9.06	-0.63
10,460.0	46.50	180.70	10,398.1	-43.7	-57.9	-12.3	11.16	10.97	2.90
10,491.0	49.90	181.50	10,418.8	-66.8	-58.4	-32.6	11.14	10.97	2.58
10,522.0	53.60	181.80	10,438.0	-91.1	-59.1	-53.9	11.96	11.94	0.97
10,554.0	56.40	181.80	10,456.3	-117.3	-59.9	-76.8	8.75	8.75	0.00
10,585.0	58.30	181.00	10,473.1	-143.4	-60.5	-99.7	6.50	6.13	-2.58
10,616.0	61.30	180.90	10,488.6	-170.2	-61.0	-123.3	9.68	9.68	-0.32
10,647.0	65.60	180.60	10,502.5	-197.9	-61.3	-147.8	13.90	13.87	-0.97
10,678.0	69.80	179.90	10,514.3	-226.6	-61.5	-173.2	13.71	13.55	-2.26
10,709.0	72.40	179.60	10,524.3	-255.9	-61.3	-199.3	8.44	8.39	-0.97
10,741.0	74.80	180.20	10,533.3	-286.6	-61.3	-226.6	7.71	7.50	1.88
10,769.0	77.50	181.30	10,540.0	-313.8	-61.6	-250.6	10.37	9.64	3.93
10,923.0	85.80	184.70	10,562.4	-465.8	-69.7	-382.1	5.81	5.39	2.21
11,017.0	88.00	184.10	10,567.5	-559.3	-76.9	-461.9	2.43	2.34	-0.64
11,033.6	88.72	183.89	10,567.9	-575.9	-78.0	-476.2	4.49	4.30	-1.29
LP Yardbirds 3 W2AP Fee 1H									
11,110.0	92.00	182.90	10,567.5	-652.1	-82.5	-541.8	4.49	4.30	-1.29
11,205.0	90.90	183.20	10,565.1	-747.0	-87.6	-623.8	1.20	-1.16	0.32
11,299.0	89.10	183.80	10,565.1	-840.8	-93.3	-704.6	2.02	-1.91	0.64
11,392.0	90.90	183.00	10,565.1	-933.6	-98.8	-784.6	2.12	1.94	-0.86
11,486.0	90.80	182.90	10,563.7	-1,027.5	-103.7	-865.8	0.15	-0.11	-0.11
11,580.0	88.40	182.70	10,564.3	-1,121.4	-108.3	-947.1	2.56	-2.55	-0.21



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11,673.0	88.00	182.80	10,567.2	-1,214.2	-112.7	-1,027.6	0.44	-0.43	0.11
11,767.0	92.50	183.30	10,566.8	-1,308.1	-117.7	-1,108.7	4.82	4.79	0.53
11,860.0	91.30	181.90	10,563.8	-1,400.9	-121.9	-1,189.3	1.98	-1.29	-1.51
11,954.0	87.20	178.70	10,565.0	-1,494.9	-122.4	-1,272.6	5.53	-4.36	-3.40
12,047.0	86.50	177.90	10,570.1	-1,587.7	-119.7	-1,356.3	1.14	-0.75	-0.86
12,141.0	95.80	180.50	10,568.2	-1,681.6	-118.4	-1,440.4	10.27	9.89	2.77
12,235.0	94.00	180.80	10,560.2	-1,775.2	-119.4	-1,523.1	1.94	-1.91	0.32
12,328.0	91.30	181.20	10,555.9	-1,868.1	-121.0	-1,604.9	2.93	-2.90	0.43
12,422.0	88.70	182.70	10,555.9	-1,962.0	-124.2	-1,687.0	3.19	-2.77	1.60
12,515.0	87.80	182.80	10,558.7	-2,054.9	-128.7	-1,767.4	0.97	-0.97	0.11
12,609.0	85.60	182.00	10,564.1	-2,148.6	-132.6	-1,849.0	2.49	-2.34	-0.85
12,702.0	90.00	181.30	10,567.7	-2,241.5	-135.3	-1,930.3	4.79	4.73	-0.75
12,796.0	88.20	180.10	10,569.2	-2,335.5	-136.5	-2,013.3	2.30	-1.91	-1.28
12,889.0	87.60	180.10	10,572.6	-2,428.4	-136.6	-2,095.8	0.65	-0.65	0.00
12,983.0	90.40	180.60	10,574.2	-2,522.4	-137.2	-2,179.1	3.03	2.98	0.53
13,077.0	90.90	183.50	10,573.2	-2,616.3	-140.6	-2,261.0	3.13	0.53	3.09
13,170.0	91.10	183.00	10,571.5	-2,709.1	-145.8	-2,341.1	0.58	0.22	-0.54
13,264.0	90.50	181.90	10,570.2	-2,803.0	-149.8	-2,422.8	1.33	-0.64	-1.17
13,357.0	89.80	180.60	10,570.0	-2,896.0	-151.9	-2,504.5	1.59	-0.75	-1.40
13,451.0	88.00	178.10	10,571.8	-2,990.0	-150.8	-2,588.5	3.28	-1.91	-2.66
13,544.0	89.10	179.40	10,574.1	-3,082.9	-148.8	-2,672.0	1.83	1.18	1.40
13,638.0	90.90	182.10	10,574.1	-3,176.9	-150.0	-2,755.0	3.45	1.91	2.87
13,731.0	90.20	182.00	10,573.2	-3,269.8	-153.3	-2,836.1	0.76	-0.75	-0.11
13,825.0	89.50	181.00	10,573.5	-3,363.8	-155.8	-2,918.5	1.30	-0.74	-1.06
13,918.0	88.40	180.60	10,575.2	-3,456.8	-157.1	-3,000.5	1.26	-1.18	-0.43
14,012.0	88.70	181.20	10,577.6	-3,550.7	-158.6	-3,083.3	0.71	0.32	0.64
14,106.0	88.70	179.70	10,579.7	-3,644.7	-159.3	-3,166.5	1.60	0.00	-1.60
14,199.0	90.30	179.30	10,580.5	-3,737.7	-158.5	-3,249.5	1.77	1.72	-0.43
14,293.0	90.40	179.40	10,579.9	-3,831.7	-157.4	-3,333.6	0.15	0.11	0.11
14,386.0	90.20	179.00	10,579.5	-3,924.7	-156.1	-3,416.8	0.48	-0.22	-0.43
14,480.0	89.90	178.30	10,579.4	-4,018.6	-153.9	-3,501.4	0.81	-0.32	-0.74
14,573.0	89.10	178.70	10,580.2	-4,111.6	-151.5	-3,585.1	0.96	-0.86	0.43
14,667.0	89.60	182.00	10,581.3	-4,205.6	-152.1	-3,668.4	3.55	0.53	3.51
14,760.0	88.40	182.60	10,582.9	-4,298.5	-155.8	-3,749.2	1.44	-1.29	0.65
14,854.0	91.00	183.20	10,583.4	-4,392.4	-160.5	-3,830.5	2.84	2.77	0.64
14,948.0	91.60	183.80	10,581.2	-4,486.2	-166.3	-3,911.2	0.90	0.64	0.64
15,041.0	90.70	183.00	10,579.4	-4,579.0	-171.8	-3,991.2	1.29	-0.97	-0.86
15,135.0	91.10	183.20	10,577.9	-4,672.8	-176.9	-4,072.3	0.48	0.43	0.21
15,142.0	91.00	183.10	10,577.8	-4,679.8	-177.3	-4,078.3	2.02	-1.43	-1.43
15,190.0	91.00	183.10	10,576.9	-4,727.7	-179.9	-4,119.7	0.00	0.00	0.00

15190' MD Projected to Bit - PBHL Yardbirds 3 W2AP Fee 1H



Microsoft Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section3-24S-28E Yardbirds 3 W2AP 1H
Well: Yardbirds 3 W2AP Fee 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Yardbirds 3 W2AP Fee 1H
TVD Reference: 3018 +27 @ 3045.0usft (Patterson 242)
MD Reference: 3018 +27 @ 3045.0usft (Patterson 242)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
15,190.0	10,576.9	-4,727.7	-179.9	15190' MD Projected to Bit



NM OIL CONSERVATION

ARTESIA DISTRICT

JUL 24 2017

RECEIVED

May 22, 2017

**New Mexico Energy, Minerals and Natural Resources Department
Attn: Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505**

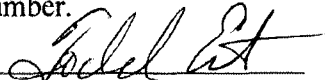
Attn: Jackie Lathan

**Re: Mewbourne Oil Company
Yardbirds 3 W2AP Fee #001H
Purple Sage; Wolfcamp (Gas)
Eddy County, New Mexico
API# 30-015-42935**

Enclosed please find the original and one (1) copy of the survey performed on the reference well by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C. Other information required by your office is as follows:

<u>Name & Title</u>	<u>Drainhole No.</u>	<u>Survey Depths</u>	<u>Dates Performed</u>	<u>Type Survey</u>
Bill Wallace	Original Hole	175ft. to 15,142ft.	04-16-17 to 05-05-17	MWD Survey

A certified plat on which the bottom-hole location is oriented to both surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.


Todd Estes

Enclosures

CC:

Mewbourne Oil Company
Attn: Frosty Lathan
P.O. Box 5720
Hobbs, NM 88241

Mewbourne Oil Company
Attn: Robin Terrell
P.O. Box 5720
Hobbs, NM 88241

NMEMaNRD\Mewbourne Oil Company\Yardbirds 3 W2AP Fee #1H\M171031

**STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.
P.O. Box 1250
Montgomery, TX 77356
Office (936) 582-7296 * Fax (936)-588-4163**



NM OIL CONSERVATION

ARTESIA DISTRICT

JUL 24 2017

RECEIVED

May 22, 2017

Survey Certification Report

STATE OF TEXAS

COUNTY OF Montgomery

I, Todd Estes, certify that I am employed by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C., and that I did on the day(s) of April 16, 2017, through May 05, 2017 conduct or supervise the taking of a SEDS Original Hole MWD Survey from a depth of 175 feet to a depth of 15,142 feet; that I am authorized and qualified to make this report; that this survey was conducted at the request of Mewbourne Oil Company, for the Yardbirds 3 W2AP Fee #001H well, API # **30-015-42935** in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles as set forth by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

Todd Estes

STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

P.O. Box 1250

Montgomery, TX 77356

Office (936) 582-7296 * Fax (936)-588-4163



Microsoft MWD Surveys



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section3-24S-28E Yardbirds 3 W2AP 1H
Well: Yardbirds 3 W2AP Fee 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Yardbirds 3 W2AP Fee 1H
TVD Reference: 3018 +27 @ 3045.0usft (Patterson 242)
MD Reference: 3018 +27 @ 3045.0usft (Patterson 242)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Project	Eddy County, New Mexico	System Datum:	Mean Sea Level
Map System:	US State Plane 1927 (Exact solution)		
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Section3-24S-28E Yardbirds 3 W2AP 1H		
Site Position:		Northing:	456,087.30 usft
From:	Map	Easting:	582,201.70 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 15' 13.036 N
		Longitude:	104° 4' 2.740 W
		Grid Convergence:	0.14 °

Well	Yardbirds 3 W2AP Fee 1H		
Well Position	+N/-S +E/-W	Northing:	456,087.30 usft
		Easting:	582,201.70 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	27.0 usft
		Latitude:	32° 15' 13.036 N
		Longitude:	104° 4' 2.740 W
		Ground Level:	3,018.0usft

Wellbore	Original Hole		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	4/13/2017	7.20
			Dip Angle (°)
			60.01
			Field Strength (nT)
			47,923.73337841

Design	Original Hole		
Audit Notes:	1.0	Phase:	ACTUAL
Version:		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			332.73

Survey Program	Date	5/8/2017	
From (usft)	To (usft)	Survey (Wellbore)	Description
175.0	15,190.0	Vertical MWD Survey (Original Hole)	OWSG MWD + IGRF or WMM



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section 3-24S-28E Yardbirds 3 WZAP 1H
Well: Yardbirds 3 WZAP Fee 1H
Wellbore: Original Hole
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Local Co-ordinate Reference: Well Yardbirds 3 WZAP Fee 1H
TVD Reference: 3018+27 @ 3045.0usft (Patterson 242)
MD Reference: 3018+27 @ 3045.0usft (Patterson 242)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
175.0	0.70	339.90	175.0	1.0	-0.4	1.1	339.90
353.0	0.70	342.70	353.0	3.1	-1.1	3.2	340.84
532.0	0.50	276.80	532.0	4.2	-2.2	4.7	332.73
723.0	0.70	285.40	723.0	4.6	-4.1	6.2	318.22
913.0	0.90	293.10	912.9	5.5	-6.6	8.6	309.78
1,103.0	1.10	321.30	1,102.9	7.5	-9.1	11.8	309.47
1,293.0	1.10	319.80	1,292.9	10.3	-11.4	15.4	312.07
1,483.0	1.30	311.00	1,482.8	13.1	-14.2	19.4	312.68
1,613.0	1.50	299.90	1,612.8	14.9	-16.8	22.5	311.61
1,800.0	1.00	307.50	1,799.8	17.2	-20.2	26.5	310.29
1,987.0	1.50	130.50	1,986.7	16.6	-19.7	25.7	310.09
2,174.0	3.10	130.00	2,173.6	11.7	-13.9	18.2	310.06
2,361.0	3.00	127.80	2,360.3	5.5	-6.2	8.3	311.43
2,457.0	2.20	100.50	2,456.2	3.6	-2.4	4.3	326.22
2,646.0	1.00	80.30	2,645.1	3.2	2.8	4.3	40.86
2,833.0	0.80	89.40	2,832.1	3.5	5.7	6.7	58.39
3,020.0	0.90	71.60	3,019.1	4.0	8.4	9.3	64.62
3,207.0	1.10	64.20	3,206.1	5.2	11.4	12.5	65.37
3,394.0	0.40	50.30	3,393.1	6.4	13.5	15.0	64.58
3,581.0	0.30	48.00	3,580.1	7.2	14.4	16.1	63.51
3,769.0	0.20	56.60	3,768.1	7.7	15.0	16.9	62.93
3,955.0	0.40	5.90	3,954.1	8.5	15.4	17.6	61.04
4,142.0	0.40	14.60	4,141.0	9.8	15.6	18.4	57.90
4,329.0	0.50	1.00	4,328.0	11.2	15.8	19.4	54.55
4,516.0	0.40	336.60	4,515.0	12.6	15.5	20.0	50.84
4,703.0	0.40	22.00	4,702.0	13.9	15.5	20.8	48.24



Microsoft MWD Surveys



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Design: Original Hole

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MD Reference: 3018 +27 @ 3045.0usft (Patterson 242)
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Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Azimuth (°)
4,890.0	0.30	16.10	4,889.0	14.9	15.9	21.8	46.80
5,077.0	1.60	317.60	5,076.0	17.3	14.3	22.5	39.48
5,264.0	3.90	321.90	5,262.8	24.3	8.6	25.7	19.50
5,451.0	4.00	322.40	5,449.3	34.4	0.7	34.4	1.14
5,638.0	4.00	323.10	5,635.9	44.8	-7.2	45.4	350.86
5,825.0	3.20	323.80	5,822.5	54.2	-14.2	56.1	345.32
6,012.0	2.40	313.50	6,009.3	61.2	-20.1	64.4	341.78
6,198.0	1.90	305.00	6,195.1	65.6	-25.5	70.4	338.77
6,385.0	2.40	333.20	6,382.0	70.9	-29.8	76.9	337.20
6,572.0	1.90	22.90	6,568.9	77.2	-30.3	83.0	338.55
6,759.0	1.40	45.60	6,755.8	81.7	-27.5	86.2	341.39
6,946.0	1.10	50.30	6,942.8	84.4	-24.5	87.9	343.82
7,133.0	2.30	346.90	7,129.7	89.2	-24.0	92.4	344.97
7,320.0	3.10	351.30	7,316.5	97.9	-25.6	101.2	345.35
7,507.0	1.10	9.10	7,503.4	104.6	-26.1	107.8	346.02
7,694.0	2.70	8.10	7,690.3	110.8	-25.2	113.6	347.21
7,881.0	2.20	354.10	7,877.1	118.7	-24.9	121.3	348.15
8,069.0	2.60	350.10	8,064.9	126.5	-26.0	129.1	348.38
8,255.0	3.10	343.50	8,250.7	135.5	-28.2	138.4	348.26
8,442.0	2.30	335.20	8,437.5	143.7	-31.2	147.1	347.76
8,629.0	1.10	6.80	8,624.4	148.9	-32.5	152.4	347.68
8,816.0	2.00	355.10	8,811.3	154.0	-32.6	157.4	348.04
9,004.0	1.00	330.10	8,999.3	158.6	-33.7	162.2	348.01
9,191.0	1.50	317.80	9,186.2	161.9	-36.2	165.9	347.41
9,378.0	1.20	320.70	9,373.2	165.2	-39.0	169.8	346.70
9,565.0	0.70	330.80	9,560.1	167.7	-40.8	172.6	346.32
9,753.0	0.70	5.20	9,748.1	169.9	-41.3	174.8	346.34



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section 3-24S-28E Yardbirds 3 W2AP 1H
Well: Yardbirds 3 W2AP Fee 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Yardbirds 3 W2AP Fee 1H
TVD Reference: 3018 +27 @ 3045.0usft (Patterson 242)
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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
9,847.0	0.40	275.50	9,842.1	170.5	-41.6	175.5	346.30
9,868.0	0.30	242.30	9,863.1	170.4	-41.7	175.5	346.26
9,899.0	0.70	195.30	9,894.1	170.2	-41.8	175.3	346.20
9,904.3	1.26	193.46	9,899.4	170.1	-41.8	175.2	346.19
BB Yardbirds 3 W2AP Fee 1H							
9,930.0	4.00	191.90	9,925.1	169.0	-42.1	174.1	346.02
9,961.0	7.40	193.00	9,955.9	166.0	-42.8	171.4	345.55
9,992.0	9.80	194.10	9,986.6	161.5	-43.8	167.3	344.81
10,023.0	12.10	193.00	10,017.0	155.8	-45.2	162.2	343.81
10,055.0	14.40	190.20	10,048.2	148.6	-46.7	155.7	342.56
10,086.0	16.20	189.30	10,078.1	140.5	-48.1	148.5	341.12
10,117.0	17.60	188.70	10,107.7	131.6	-49.5	140.6	339.40
10,148.0	19.40	188.40	10,137.1	121.9	-50.9	132.1	337.32
10,179.0	21.80	187.00	10,166.1	111.1	-52.4	122.8	334.75
10,210.0	24.70	185.30	10,194.6	98.9	-53.7	112.5	331.51
10,242.0	27.20	184.90	10,223.4	85.0	-54.9	101.2	327.12
10,273.0	29.70	184.20	10,250.6	70.2	-56.1	89.9	321.39
10,304.0	32.40	182.40	10,277.2	54.3	-57.0	78.7	313.60
10,335.0	34.90	181.00	10,303.0	37.1	-57.5	68.4	302.83
10,366.0	37.30	180.60	10,328.1	18.8	-57.8	60.8	288.07
10,397.0	40.20	180.00	10,352.2	-0.6	-57.9	57.9	269.45
10,429.0	43.10	179.80	10,376.1	-21.8	-57.8	61.8	249.33
10,460.0	46.50	180.70	10,398.1	-43.7	-57.9	72.5	232.99
10,491.0	49.90	181.50	10,418.8	-66.8	-58.4	88.7	221.17
10,522.0	53.60	181.80	10,438.0	-91.1	-59.1	108.6	212.96
10,554.0	56.40	181.80	10,456.3	-117.3	-59.9	131.7	207.05
10,585.0	58.30	181.00	10,473.1	-143.4	-60.5	155.6	202.89



Microsoft
MWD Surveys



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10,616.0	61.30	180.90	10,488.6	-170.2	-61.0	180.8	199.71
10,647.0	65.60	180.60	10,502.5	-197.9	-61.3	207.2	197.22
10,678.0	69.80	179.90	10,514.3	-226.6	-61.5	234.7	195.18
10,709.0	72.40	179.60	10,524.3	-255.9	-61.3	263.1	193.48
10,741.0	74.80	180.20	10,533.3	-286.6	-61.3	293.1	192.07
10,769.0	77.50	181.30	10,540.0	-313.8	-61.6	319.8	191.11
10,923.0	85.80	184.70	10,562.4	-465.8	-69.7	470.9	188.51
11,017.0	88.00	184.10	10,567.5	-559.3	-76.9	564.6	187.82
11,033.6	88.72	183.89	10,567.9	-575.9	-78.0	581.2	187.71
LP Yardbirds 3 W2AP Fee 1H							
11,110.0	92.00	182.90	10,567.5	-652.1	-82.5	657.3	187.21
11,205.0	90.90	183.20	10,565.1	-747.0	-87.6	752.1	186.69
11,299.0	89.10	183.80	10,565.1	-840.8	-93.3	846.0	186.33
11,392.0	90.90	183.00	10,565.1	-933.6	-98.8	938.8	186.04
11,486.0	90.80	182.90	10,563.7	-1,027.5	-103.7	1,032.7	185.76
11,580.0	88.40	182.70	10,564.3	-1,121.4	-108.3	1,126.6	185.51
11,673.0	88.00	182.80	10,567.2	-1,214.2	-112.7	1,219.4	185.30
11,767.0	92.50	183.30	10,566.8	-1,308.1	-117.7	1,313.4	185.14
11,860.0	91.30	181.90	10,563.8	-1,400.9	-121.9	1,406.2	184.97
11,954.0	87.20	178.70	10,565.0	-1,494.9	-122.4	1,499.9	184.68
12,047.0	86.50	177.90	10,570.1	-1,587.7	-119.7	1,592.2	184.31
12,141.0	95.80	180.50	10,568.2	-1,681.6	-118.4	1,685.7	184.03
12,235.0	94.00	180.80	10,560.2	-1,775.2	-119.4	1,779.2	183.85
12,328.0	91.30	181.20	10,555.9	-1,868.1	-121.0	1,872.0	183.71
12,422.0	88.70	182.70	10,555.9	-1,962.0	-124.2	1,965.9	183.62
12,515.0	87.80	182.80	10,558.7	-2,054.9	-128.7	2,058.9	183.58
12,609.0	85.60	182.00	10,564.1	-2,148.6	-132.6	2,152.7	183.53

Company: Mewbourne Oil Company
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Database: Stryker_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
12,702.0	90.00	181.30	10,567.7	-2,241.5	-135.3	2,245.6	183.45
12,796.0	88.20	180.10	10,569.2	-2,335.5	-136.5	2,339.4	183.34
12,888.0	87.60	180.10	10,572.6	-2,428.4	-136.6	2,432.2	183.22
12,983.0	90.40	180.60	10,574.2	-2,522.4	-137.2	2,526.1	183.11
13,077.0	90.90	183.50	10,573.2	-2,616.3	-140.6	2,620.1	183.08
13,170.0	91.10	183.00	10,571.5	-2,709.1	-145.8	2,713.1	183.08
13,264.0	90.50	181.90	10,570.2	-2,803.0	-149.8	2,807.0	183.06
13,357.0	89.80	180.60	10,570.0	-2,896.0	-151.9	2,900.0	183.00
13,451.0	88.00	178.10	10,571.8	-2,990.0	-150.8	2,993.8	182.89
13,544.0	89.10	179.40	10,574.1	-3,082.9	-148.8	3,086.5	182.76
13,638.0	90.90	182.10	10,574.1	-3,176.9	-150.0	3,180.4	182.70
13,731.0	90.20	182.00	10,573.2	-3,269.8	-153.3	3,273.4	182.68
13,825.0	89.50	181.00	10,573.5	-3,363.8	-155.8	3,367.4	182.65
13,918.0	88.40	180.60	10,575.2	-3,456.8	-157.1	3,460.3	182.60
14,012.0	88.70	181.20	10,577.6	-3,550.7	-158.6	3,554.3	182.56
14,106.0	88.70	179.70	10,579.7	-3,644.7	-159.3	3,648.2	182.50
14,199.0	90.30	179.30	10,580.5	-3,737.7	-158.5	3,741.0	182.43
14,293.0	90.40	179.40	10,579.9	-3,831.7	-157.4	3,834.9	182.35
14,386.0	90.20	179.00	10,579.5	-3,924.7	-156.1	3,927.8	182.28
14,480.0	89.90	178.30	10,579.4	-4,018.6	-153.9	4,021.6	182.19
14,573.0	89.10	178.70	10,580.2	-4,111.6	-151.5	4,114.4	182.11
14,667.0	89.60	182.00	10,581.3	-4,205.6	-152.1	4,208.3	182.07
14,760.0	88.40	182.60	10,582.9	-4,298.5	-155.8	4,301.3	182.08
14,854.0	91.00	183.20	10,583.4	-4,392.4	-160.5	4,395.3	182.09
14,948.0	91.60	183.80	10,581.2	-4,486.2	-166.3	4,489.2	182.12
15,041.0	90.70	183.00	10,579.4	-4,579.0	-171.8	4,582.2	182.15
15,135.0	91.10	183.20	10,577.9	-4,672.8	-176.9	4,676.2	182.17



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section 3-24S-28E Yardbirds 3 W2AP 1H
Well: Yardbirds 3 W2AP Fee 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Yardbirds 3 W2AP Fee 1H
TVD Reference: 3018 +27 @ 3045.0usft (Patterson 242)
MD Reference: 3018 +27 @ 3045.0usft (Patterson 242)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Snyker_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
15,142.0	91.00	183.10	10,577.8	-4,679.8	-177.3	4,683.2	182.17
15,190.0	91.00	183.10	10,576.9	-4,727.7	-179.9	4,731.2	182.18

15190' MD Projected to Bit - PBHL Yardbirds 3 W2AP Fee 1H

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
15,190.0	10,576.9	-4,727.7	-179.9	15190' MD Projected to Bit

30-015-42935



COMPANY: Mewbourne Oil Company
WELL: Yardbirds 3 W2AP Fee 1H
COUNTY: Eddy County, New Mexico
DATUM: NAD 1927 (NADCON CONUS)
RIG: Patterson Patterson 242



Grid Correction MWD: To convert a Magnetic Direction to a Grid Direction, Add 7.06°

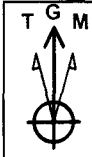
OFFICE: 936.582.7296

GEODETIC ZONE: New Mexico East 3001
3018 +27 @ 3045.0usft (Patterson 242)

GROUND ELEVATION: 3018.0
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 456067.30 582201.70 32° 15' 13.036 N 104° 4' 2.740 W

PLAN SECTIONS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5000.0	0.00	0.00	5000.0	0.0	0.0	0.00	0.00	0.0	
3	5140.3	2.10	0.84	5140.3	2.6	0.0	1.50	0.84	-2.6	
4	9762.9	2.10	0.84	9759.7	172.3	2.5	0.00	0.00	-172.4	
5	9903.2	0.00	0.00	9900.0	174.9	2.5	1.50	180.00	-174.9	BB Yardbirds 3 W2AP Fee 1H
6	9991.2	0.00	0.00	9988.0	174.9	2.6	0.00	0.00	-174.9	
7	10888.3	89.71	180.92	10561.0	-395.1	-6.6	10.00	180.92	395.1	
8	15228.5	89.71	180.92	10583.0	-4734.7	-76.3	0.00	0.00	4735.3	PBHL Yardbirds 3 W2AP Fee 1H



Azimuths to Grid North
True North: -0.14°
Magnetic North: 7.06°

Magnetic Field
Strength: 47923.7nT
Dip Angle: 60.01°
Date: 4/13/2017
Model: IGRF2015

SHL 185 FNL; 400' FEL
Section 3-24S-28E
PBHL 330' FSL; 400' FEL
Section 3-24S-28E

